

What is claimed is:

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- 1 1. A real-time large-scale visualization system comprising:  
2 a visualization interface;  
3 a plurality of processing tools;  
4 means for accessing data in a self-describing format; and  
5 means for streaming the data to one or more processing tools to create data  
6 results that may be displayed by the visualization interface.
- 1 2. The invention of claim 1 wherein the visualization interface provides  
2 linked views of the data results.
- 1 3. The invention of claim 2 wherein the visualization interface is capable  
2 of presenting a statistical two-dimensional view, a pixel-oriented two-dimensional view,  
3 and a dynamic three-dimensional detailed view.
- 1 4. The invention of claim 1 wherein the visualization interface can access  
2 the data results as the processing tools are working on the data.
- 1 5. The invention of claim 1 wherein the visualization interface enables  
2 selection of a portion of the data results such that data corresponding to the portion  
3 selected may be accessed and processed in real-time to create second data results that are  
4 displayed on the visualization interface.
- 1 6. The invention of claim 1 wherein the processing tools enables creation  
2 of new processing expressions that are compiled and dynamically linked to the  
3 processing tools.

1 7. The invention of claim 1 wherein the data is accessed using Direct IO.

1 8. A method of visualizing large-scale data in real-time comprising:  
2 accessing data in a self-describing format;  
3 streaming the data to one or more processing tools to create data results;  
4 displaying the data results on a visualization interface.

1 9. The invention of claim 1 wherein the visualization interface provides  
2 linked views of the data results.

1 10. The invention of claim 2 wherein the visualization interface is capable  
2 of presenting a statistical two-dimensional view, a pixel-oriented two-dimensional view,  
3 and a dynamic three-dimensional detailed view.

1 11. The invention of claim 1 wherein the visualization interface can access  
2 the data results as the processing tools are working on the data.

1 12. The invention of claim 1 wherein the visualization interface enables  
2 selection of a portion of the data results such that data corresponding to the portion  
3 selected may be accessed and processed in real-time to create second data results that are  
4 displayed on the visualization interface.

1 13. The invention of claim 1 wherein the processing tools enables creation  
2 of new processing expressions that are compiled and dynamically linked to the  
3 processing tools.

1 14. The invention of claim 1 wherein the data is accessed using Direct IO.